

CLAIMS

We Claim:

1 **1.** A method of transmitting and receiving messages in a network,
2 comprising:

3 transmitting a flow control message header to a transmitting node from a
4 receiving node, wherein the flow control header comprises a message sent field and
5 a message limit field;

6 transmitting a message from the transmitting node to the receiving node and
7 incrementing a send counter;

8 receiving the message by the receiving node and incrementing a consumed
9 credits variable;

10 determining a message was dropped when the message sent field is less than
11 or equal to the value of the consumed credits variable;

12 adjusting the message limit field to compensate for the dropped message; and

13 transmitting the message limit field to the transmitting node.

1 **2.** The method recited in claim 1, wherein the determining a message was
2 dropped further comprises:

3 setting a variable drop count equal to the message sent field less the
4 consumed credits variable;

1 6. The method recited in claim 1, further comprising:

2 transmitting at a predetermined time interval the flow control message header
3 to the transmitting node, wherein a value contained in the message limit field is
4 increased.

1 7. The method recited in claim 6, wherein the increase in the message limit
2 field further comprises:

3 incrementing send counter and the message sent field;

4 incrementing and available credits variable by a new credits variable, wherein
5 the available credits variable represents the total number of messages the
6 transmitting node may send and the new credits variable represents additional
7 messages that may be transmitted by the transmitting node; and

8 setting the message limit field equal to the consumed credits variable plus the
9 available credits variable.

1 8. The method recited in claim 1, further comprising:

2 determining if a get credit variable is set to true, wherein the get credit variable
3 represents that additional messages may be sent by the transmitting node to the
4 receiving node; and

5 incrementing the available credits variable by the number of additional
6 messages permitted.

1 **9.** An apparatus comprising a data storage medium for storing instructions
2 when executed by a processor results in, comprising:

3 transmitting a flow control message header to a transmitting node from a
4 receiving node, wherein the flow control header comprises a message sent field and
5 a message limit field;

6 transmitting a message from the transmitting node to the receiving node and
7 incrementing a send counter;

8 receiving the message by the receiving node and incrementing a consumed
9 credits variable;

10 determining a message was dropped when the message sent field is less than
11 or equal to the value of the consumed credits variable;

12 adjusting the message limit field to compensate for the dropped message; and
13 transmitting the message limit field to the transmitting node.

1 **10.** The apparatus recited in claim 9, wherein the determining a message
2 was dropped further comprises:

3 setting a variable drop count equal to the message sent field less the
4 consumed credits variable;

5 determining if the variable drop count is less than an available credits variable,
6 wherein the available credits variable represents the total amount of space allocated
7 to receive messages from a particular node; and

6 a post send module to update an available credits variable, wherein the
7 available credits variable indicates the total number of messages a transmitting node
8 may send to a receiving node.

1 **18.** The system recited in claim 17, wherein the receive done module
2 increments a consumed credits variable and compares the consumed credits
3 variable to the message sent field to determine if a message has been dropped.

1 **19.** The system recited in claim 18, wherein the receive done module will
2 add an additional value to the message limit field when it is determined that a
3 message has been dropped.

1 **20.** The system recited in claim 19, further comprising:
2 a threshold check module to determine if the transmitting node has any
3 available credits remaining and updating the message limit field to include additional
4 credits when no further credits remaining for the transmitting node.

1 **21.** The system recited in claim 19, further comprising:
2 a post receive module to increment a new credit variable and process pending
3 message requests.

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